THIRD ANNUAL

Summer Tech RESOURCE GUIDE FOR GIRLS

SUMMER 2002 . . . *The future is here!*

This summer you could…

Make your own clay animation movie

Develop your own web page, complete with digital photos and animated clipart

Design a 21st century dream house or create a unique fabric design

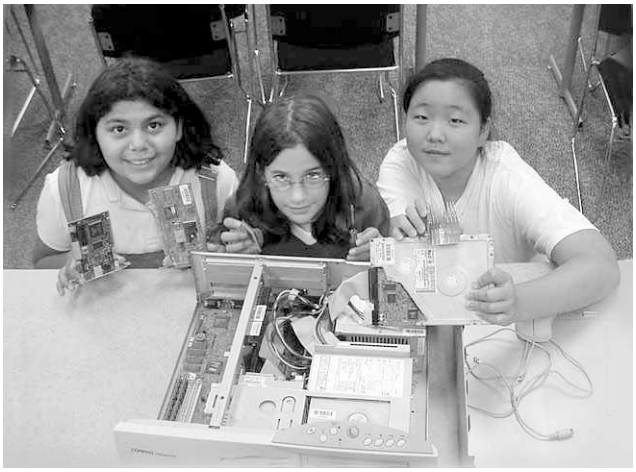
Build your own robot

Work as a team to make the world a better place

Technology is the key —
The key to summer fun!
The key to the well-paid interesting jobs of the future!
The key to your success!

Summer 2002 is the time to discover new talents and explore new interests. The summer camps listed inside can help you do it . . .

SUMMER TECHNOLOGY PROGRAM



Now in its 5th year...

A dazzling array of exciting opportunities is available to Northern Virginia students through a special partnership between Northern Virginia Community College, Virginia Tech, Marymount University, and the Northern Virginia Regional Partnership. Scholarships are available.

Northern Virginia Community College — Annandale Campus

offers three exciting programs for rising 6th-8th graders:

- **Web Girls:** Enter the world of technology and investigate the World Wide Web with a purpose! Showcase your skills and creativity by designing personal web pages and presentations. Learn basics of Microsoft Office Suite, including Power Point, and basic HTML for web design. (July 8-12)
- **Software Smarts:** Explore basic software applications in this user-friendly class. Scan and manipulate photos and graphics. Create personal web pages and eye-catching presentations. (July 8-12)
- **Cyber–Techs:** Have you ever wanted to learn how a computer really works? Build your very own computer in this intermediate level session. Practice basic HTML programming to create personal web pages, learn how to master multimedia presentations, and produce 3D objects using Computer Aided Drafting (CAD). (Two sessions: July 15-19 and July 22-26)

For more information, contact Cheryl Bailey at 703-323-3183 or email cbailey@nvcc.vccs.edu. To register, contact the Office of Continuing Education, 703-323-3168.

Virginia Tech and Falls Church Public Schools

offer seven exciting programs for rising 6th-9th graders with a range of computer skills and interests:

- **Girls on Line (GOL):** Explore technology through engaging, hands-on activities. Take apart and rebuild a computer. Create Power Point presentations, design web pages, and communicate with students around the world. Through exciting field trips, research interesting careers and learn the role technology plays in those careers. (July 22-August 2)
- **Computer Animation and Digital Photography:** Smile! Say Cheese! Then do a dance please! Learn how to spice up web pages and school projects with animated clipart and digital photography. Create your own digital sketchbook. Learn to scan negatives, make greeting cards, photo collages, and more. (July 29-August 9)
- **Website Design and Layout:** Create web pages using publishing and graphics programs. Learn HTML commands and how to use editors to produce text, graphics, and animation. (Two sessions: July 8-19 and July 22-August 2)
- **Virtual Reality:** Experience virtual reality by creating a 3D world using Virtual Reality Modeling Language. Publish your project on the World Wide Web. In Virtual Reality/Level II, students will learn how to design and implement a collaborative virtual world. (Level I: July 8-July 12 and August 5-9; Level II: July 15-19)
- **Computer Aided Design:** Learn to draw, animate, and manipulate 3D models using Computer Aided Design (CAD). Use multi-media software to create a final project. (July 22-August 2)
- **Computer Technology Tools for Beginners:** Improve your skills in word processing, using the Internet, creating spreadsheets, and conducting research. Students will participate in the E-mail Mentor Program with an On-line Pen Pal from the business world. (August 5-9)
- **Navigating the Universe:** Investigate the wonders of our celestial surroundings. Map the stars and the planets. Use computers and the Internet to investigate the mysteries of our Universe and communicate with astronomers around the world. (July 8-19)

For more information, contact Steve Guiffre at 703-538-8301 or email sguiffre@vt.edu. Register online: http://www.conted.vt.edu/sytp.htm.

Marymount University in Arlington

offers two summer workshops for rising 7th-9th graders:

- **Creative Design:** Do you like to design? Learn how to use the computer to create textile designs and design fabric and clothing. Learn about color perception and the chemical activity of dyes. "Paint" and sketch your designs on the computer. Survey other students and study the trends that drive marketing. (July 8-12)
- **Interactive Web Design:** Design your own web page using Dreamweaver software. Learn how to use digital photography, web graphics, and video to enhance the appeal of your site. Use JavaScript to create dynamic links to other web sites. (July 15-19)

For more information, contact Dr. Rosemary Hubbard 703-284-1560 or email Rhubbard@Marymount.edu.

SUMMER TECHNOLOGY PROGRAM

Northern Virginia Community College — Manassas Campus

offers three exciting camps for middle and high school students:

- **Make Your Own Clay Animation Movie:** Create and direct your own clay animation movie. Build and choreograph clay characters and objects for your video. Process your images through state-of-the-art digital cameras and computer systems. Enjoy the creative process of this exciting art form through teamwork and movie production! (6th-8th graders: July 22-August 2)
- **Minerals, Gems, and Fossils:** Discover and collect fossils on a field trip to the Coastal Plain of Virginia. Create fossil replicas. Visit a working gem mine in Virginia's Piedmont and bring home colorful specimens of gems and rare minerals. Identify minerals using a computer database and the Internet. Polish natural stones to create your own customized jewelry or artwork. (6th-8th graders: July 8-19)
- **Rolling Robots:** Build and program a Lego-based robot. Program your robot to navigate an obstacle course. Tackle C++ programming to control the robots' sensors. Test your robot by competing against other teams. (8th-10th graders: Introductory session: July 8-19; Intermediate session: July 22-August 2)

For more information, contact Dr. Ron Buchanan at 703-257-6685 or email at rbuchanan@nvcc.vccs.edu.

Northern Virginia Community College — Alexandria Campus

offers two exciting programs for middle school students:

- **Robotics:** Explore the fascinating world of robots — both virtual and real. Learn how to build and program a wireless robot. Use your virtual robot to draw real-life objects on the computer and make complex game boards. Beginner and intermediate level robotics camp will be offered. (Beginner: July 8-19; Intermediate: July 22-August 2)
- **Boatbuilding and Water Ecology:** Build a boat and then use your boat to explore the Potomac River and its wetlands. Help protect the environment by testing water for contaminants and identifying plants and animals living in the Potomac. Computers will be used to gather information and analyze data. (Two sessions: July 8-19 and July 22-August 2)

To register, contact the Office of Continuing Education at 703-845-6240. For more information, contact dhimes@nvcc.vccs.edu (put STP2002 in the subject line of your email) or phone 703-845-6514.

Northern Virginia Community College — Woodbridge Campus

offers two adventure-packed, interactive, summer programs for rising 6th-9th graders:

- **Science, Technology and Environmental Program:** Canoe lakes and rivers, collect and identify bugs in a college laboratory, test water quality, learn global positioning systems and navigation. Conduct online research and prepare informational web pages using digital cameras, photo editing, graphic manipulation, graphic animations, flash programming, and file uploading. Students of all levels of computer expertise are welcome. (7th -9th graders: July 8-19)
- **Adventures in Learning Math and Technology Camp:** Imagine measuring the width of your hair using a laser, creating a laser maze with mirrors, designing and building your own bridge, and mapping the bottom of the campus lake! 6th-8th graders will discover these mathematical relationships and more using lasers, graphing calculators, data collectors, probes, and spreadsheets. Explore physics using roller coasters equipped with photo-gates, marble launchers, car ramps and motion detectors. Record your activities using digital cameras and build your photos into personal web pages. (6th-8th graders: July 15-26)

For more information, call 703-878-5755 or email frice@nvcc.vccs.edu.

Northern Virginia Community College — Loudoun Campus

offers its Summer Creative Computer Camp for two age levels: rising 3rd-5th graders and rising 6th-8th graders:

- **Summer Creative Computer Camp:** What do Harry Potter, Shrek, and Lord of the Rings have in common? They all started with an idea and a movie storyboard. This Smithsonian Laureate award-winning program is doing the same thing! Incorporating essential IT skills and sound teamwork processes, students create a movie storyboard based on "A Travel in Time." Students will spend half of their day in the computer lab learning how to use the Internet for research, designing a web page, programming in Visual Basic (older students only), using digital cameras and Photoshop to create images, making presentations in PowerPoint, managing business data using Access, and preparing a business budget using Excel. During the second half of their day, participants form a production company and work on an outline and storyboards for their movie.

There are three two-week sessions for each age level (grades 3-5 and grades 6-8): July 1-12, July 15-26, and July 29-August 9

For more information, contact 703-450-2551 or 2552 or email Esther Perantoni at eperantoni@nvcc.vccs.edu.

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SUMMER TECHNOLOGY PROGRAM

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Columbia Lighthouse for the Blind

offers two summer camps for middle-school students who are blind or visually impaired:

- **Web Page Development Workshop:** Learn the fundamentals of building a graphically pleasing, accessible web page to effectively and efficiently communicate information to a variety of audiences. Students will receive instruction from blind or visually impaired instructors. (July 8-19)
- **Fundamentals of Computer Hardware:** Learn the fundamentals of computer hardware by taking a computer apart and putting it back together. Working in teams and one-on-one with blind or visually impaired instructors, students will use important memory, spatial and organization skills while learning basic computer engineering. (July 22-August 2)

Financial aid and transportation are available. For more information, contact Bart Andrychowski at 202-454-6431 or email bandrychowski@clb.org.

FAIRFAX COUNTY PUBLI

Tech Adventure Camp

Technology and careers come alive as students experience new worlds at Fairfax County Public School's Tech Adventure Camp. The two-week camp, which is open to students currently enrolled in grades 6, 7, and 8, will be held at Chantilly and Edison High School Academies (July 8-19). Courses are either new or revised to offer returning students additional topics of interest. Students will rotate through the following three units:

- **Artistic Expression:** Combine your artistic creativity with technology to design and create your own web page. Use digital photography to capture fascinating images, with an emphasis on composition and lighting.
- **Technology Transfer:** Budding architects will use Visual Basic to create object-oriented programs, while future aviators will develop an understanding of aerodynamics through the design and flight of model aircraft. Campers will also learn how to assemble and program Lego robotic creations.
- **Life Matrix:** Prepare tasty foods in the Kidz Kitchen and learn about injuries, treatment, and first aid in Junior Medic.

Transportation is provided. Fax and mail-in registration begins on May 13. Walk-in registration begins on May 20 at any of the four FCPS adult education registration centers. For information about Tech Adventure Camp, call 703-208-7789.

Minicourses

Elementary, middle, and high school students can sharpen their technology skills by taking one or more of FCPS's minicourses. Minicourses are designed to stimulate students' curiosity and provide enriching, creative, learning experiences. These courses vary in length and focus on a wide variety of topics. No transportation is provided. The following science and technology-related minicourses and extended day programs will be offered this summer:

For elementary students:

- **BETR Science Comes Alive:** (Grades 3-6): Science is EVERYWHERE! BETR (Bioscience, Education, Training, and Research Club) Science and Nature Camps are exciting, challenging, mind expanding, and just plain fun. Transform your imagination into action during two weeks of fun and exploration. Sample activities include designing and building mousetrap cars, rockets, and airplanes; cloning bacteria; taking part in nature walks and ecology scavenger hunts and much more.
- **TechTrek:** (Grades 4-6): Spend your summer afternoons trekking through three technology-based modules. *Restaurateur* introduces entrepreneurial and architectural skills as students conduct interest surveys, create a budget, and design a blueprint of a restaurant using spreadsheet and desktop publishing skills. *Movie Critic* introduces journalism and desktop publishing skills as students review movies and develop an interactive game and attention-grabbing cover. *Safari Guide* introduces business management skills as students create a tourist camp to support conservation efforts in Africa.
- **Creating Your Own Home Page:** (Grades 4-6): Learn to create your own home page. Build a web page around endangered species with Paint and Draw applications.
- **Keyboarding:** (Grades 4-6): Become familiar with the computer keyboard. Learn correct alphabetic finger placement as well as the use and location of specific computer keys. Keyboarding speed will not be addressed.
- **If this is Math, It Must be Monday** (Grades 4-6): Conquer math! Explore patterns and measurements, develop problem solving and logic skills using fun hands-on math activities.

For middle and high school students:

- **Visual Basic for Teens** (Grades 8-12): Learn Visual Basic programming, including graphical user interface (GUI), creation and use of controls, boxes, buttons, menus and scroll bars.
- **Introductory and Intermediate Keyboarding for Teens** (Grades 7-12)
- **Noncredit minicourses in Algebra and Geometry** will be offered for high school students. The courses are designed to refresh and strength students' math skills in preparation for the SOLs.

Registration begins on May 13. For more information, contact the Office of Adult and Community Education at 703-227-8451.

C SCHOOLS

Summer Technology Institute

Thomas Jefferson High School for Science and Technology (TJHSST) offers the Summer Technology Institute for rising 8th and 9th grade students, regardless of high school enrollment. The Institute offers a variety of noncredit, enrichment courses providing hands-on experiences with a focus on the uses of technology. The following courses will be offered this summer:

- **Media Studio — Imaging:** Hands-on, introductory class that explores the new frontiers of art creations in the age of digital technology. Explore digital and traditional photography, design templates from traditional art materials, use scanners creatively, create an animation using digital video cameras, and learn how to transfer 2-dimensional computer-generated images into 3-dimensional laser-cut sculpture. (July 22-26 and August 5-9)
- **Technology, Tessellations, and T-Shirts:** Explore the mathematics of tessellations. Produce tessellations by hand and utilizing computer software. Design a tessellation to put on a T-shirt to take home. (July 23-24)
- **Technology and Mathematics – From the Past to the Present:** Explore past technological tools including the abacus, Napier's Bones, and the Clinometer. Explore present technologies, including using the TI-83 calculator with the Calculator Based laboratory to perform experiments. The course will include three all-day field trips to George Washington's Birthplace, the National Museum of Air and Space, and the Maryland Science Center.
- **Introduction to Web Pages:** Web page design for students who have not had any experience creating web documents from HTML code. (July 8-12, July 15-19, and July 22-26)
- **Biotechnology:** Hands-on program using specialized techniques associated with gene mapping, DNA sequencing, and forensic procedures used in DNA fingerprinting. (July 8-12, July 15-19, July 22-26, and July 29-August 2)
- **Introduction to the TI-83+ and Calculator Based Laboratory (CBL):** An introduction to the TI-83+ calculator and the CBL and computer interface, using data collected in science experiments. (July 29-August 2)
- **Computer Assisted Design:** Use AutoCAD and R2000 commands to generate 3D solid models and to produce Photo-Real rendered images. (July 22-26)
- **Global Positioning Systems:** Explore how the global position system functions and operate GPS receiver equipment. (July 8-10)
- **Applied Electronics (rising 9th graders only):** Assemble and keep three hands-on electronic devices involving solid state and computer chip technology. (July 8-12)

No transportation is available. Registration begins April 22 at TJHSST and ends May 31. For registration information, contact TJHSST at 703-750-8335.

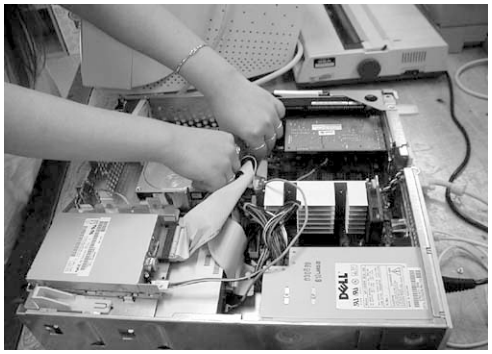
VIRGINIA TECH COLLEGE OF ENGINEERING

CTECH^2

July 7-20

Computers and Technology at Virginia Tech is a residential program for rising 11th and 12th grade girls offered at the Blacksburg campus. The program offers young women the opportunity to explore applications of engineering, math, and science in a fun and exciting way.

Campers will focus on computers — how they work and how to use them to both communicate and to enhance one's thoughts and ideas. The majority of time will be spent in hands-on activities designed to increase interest in applications of engineering, math and science to real world situations. Students will also be exposed to college life — from residence hall living to college classrooms — and will have the opportunity to explore educational and career options with women who are pursuing careers in engineering, math, and science.



Applications must be postmarked by March 1. For more information, contact the Office of Minority Engineering Programs at 540-231-3973 or visit the web-site at www.eng.vt.edu/ctech2.

NORTHERN VIRGINIA SUMMER ACADEMY

at Episcopal High School in Alexandria
July 8-26

This unique and exciting three-week interdisciplinary program offers academically talented high school students the opportunity to explore the relationship between health care, technology, genetics, and public policy. Classroom sessions include laboratories, such as DNA fingerprinting and simulated detection of HIV, informational lectures, debates related to current health care and ethical issues, cases studies, and role-playing. Field trips include the National Institutes of Health, the Naval Research Lab, and Capitol Hill. In addition to academic work, students participate in theater and music activities, team-building projects, and activities designed to improve communication and speaking skills.

Scholarships are available for students with financial need. Priority consideration is given to applications received by May 1.

For more information, visit the web site at www.acps.k12.va.us/nvsa or contact Kathye Geary at 703-765-2395 or kathye.geary@verizon.net .

GEORGE MASON UNIVERSITY

Science, Engineering, and Technology (SET) Enrichment Camps

S.E.T.

Open to rising 6th-9th graders
July 15-19

Middle school students will be introduced to science and engineering fields through a "learning by doing" model of hands-on activities. The camp emphasizes innovation, creativity, and a "can do" attitude. College students serve as mentors and University faculty as instructors. The camp will focus on four broad areas:

- **Computer Technology and Engineering Projects**
- **The Natural Sciences**
- **Leadership**
- **Fun!**

S.E.T. FINANCE

Open to rising 4th-6th graders
July 15-17

A focus for Smart Money Kids! Campers use mathematics for personal money management. Campers will learn spreadsheets, bookkeeping, and the basics of smart buying. Student leadership and goal setting are included in this fun approach to finance.

For registration information, email Dr. Karen Oates at koates@gmu.edu.

Horizons! Summer Camp for Gifted/Talented

Open to rising 5th-8th graders
July 8-12

Horizons! is an enriched day camp designed to help girls and boys develop leadership skills, explore career options, and express creativity through music, dance, drama, writing, cooking, and art. Skill building activities range from computer technology to athletics, including karate, golf, swimming, and the ropes course. Professionals (CEOs and business owners) serve as role models and offer ongoing mentorship to campers.

The primary goals of the Horizons! Summer Camp are to:

Enhance self-esteem
Nurture confidence and leadership skills
Realize potential
Initiate exploration in career options and goals
Creatively express themselves
HORIZONS: a gender equity curriculum

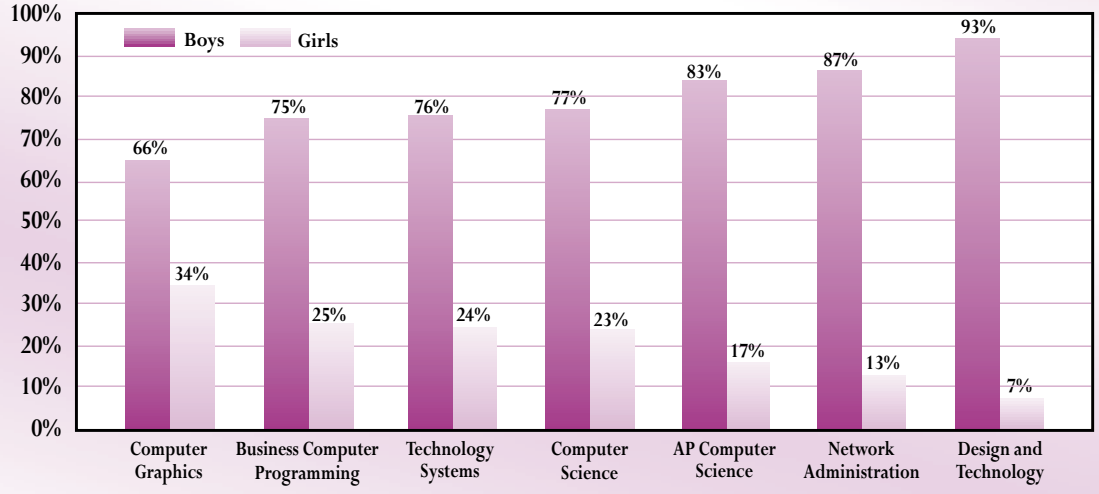
- **After-camp computer club — back by popular demand.** This optional club will be offered from 3:30-5:30 on Monday through Wednesday. Campers will create one-of-a-kind presentations, using Power Point, Internet clip art and graphics, scanning and image manipulation software.

The camp is open to students who have demonstrated gifted abilities in academics, technology, athletics, or the arts.

For more information, contact the Horizons! office at 703-993-4095.

Girls Severely Underrepresented in Technology Classes in Fairfax County

SOURCE: *Office ForWomen based on FCPS enrollment data 2001-02.*



COMPUTER CLUBHOUSES

Fairfax County is now home to two Computer Clubhouses, which provide a creative and safe learning environment for youth from 8 to 18 years of age. The computer clubhouses are located at:

- **Gum Springs Community Center**
  8100 Fordson Road, Alexandria
  703-360-6088
- **Bailey's Community Center**
  5920 Summer Lane, Falls Church
  703-931-7027

The goal is for participants to utilize technology to explore new horizons revolving around their interests and potential careers — not simply to be passive consumers of technology. At the clubhouse, youth have the opportunity to reinvent themselves: using clubhouse resources to learn what it's like to be an architect, engineer, composer, artist, journalist, computer programmer, or one of the many other professions that employ technology. Clubhouse members test their creativity by using Mindstorm infra-red technology and Legos, explore the world of science using microscopes, create unique artwork with animation, or produce their own electronic music.

Staffed by VISTA members, county staff, and adult volunteers, the clubhouses are open Monday – Friday 2:00-8:00 p.m. and Saturdays 2:00-6:00 p.m. Participating youth and their parents are required to complete a registration and survey. Registration is free and can be conducted during operating hours.

The Gum Springs and Bailey's Computer Clubhouses are a collaborative effort of Fairfax County Community and Recreation Services and Fairfax County Public Library and are sponsored by the Northern Virginia Technology Council.

COMPUTER LEARNING CENTERS PARTNERSHIP

The Fairfax County Office of Partnerships' Computer Learning Centers Partnership (CLCP) provides free state-of-the-art computer centers that offer fun, challenging, and exciting access to technology. At the CLCPs children learn that "Teknowledge is Power" through programs that encourage creativity by providing opportunities to explore and discover using age-appropriate software covering topics such as graphics, networking, critical thinking and fun brain games. Your child will travel the world by surfing the Internet and creating multi-media presentations about other countries. Children will learn Microsoft PowerPoint and complete slide show presentations that include digital photography, text, graphics, narrative, music and animation.

The centers are open to children from kindergarten through high school. All activities are free to participants. While the majority of the centers serve residents of the housing developments in which they are located, the following centers are open to children from the surrounding area. Preference is given to children living in the housing complexes or enrolled in the neighborhood centers. Find the center closest to you and give them a call today, or visit the CLCP website at www.fairfaxcounty.gov/partnerships/clcp.htm.

- **Cedar Ridge Computer Learning Center**
  (Reston) 703-471-7438
- **Chantilly Mews Computer Learning Center**
  (Chantilly) 703-324-5171
- **Culmore Computer Learning Center**
  (Falls Church) 703-578-3851
- **Herndon Computer Learning Center**
  (Herndon) 703-435-7875
- **Kingsley Commons Computer Learning Center**
  (Falls Church) 703-698-1420
- **Mt. Vernon Woods Computer Learning Center**
  (Alexandria) 703-619-2823
- **Murrygate Village Computer Learning Center**
  (Alexandria) ..... 703-780-9574 x 203
- **Sacramento Computer Learning Center**
  (Alexandria) 703-619-2963
- **Stonegate Computer Learning Center**
  (Reston) 703-758-2416
- **West Ford Computer Learning Center**
  (Alexandria) 703-799-0699
- **West Glade Computer Learning Center**
  (Reston) 703-716-0239
- **Yorkville Computer Learning Center**
  (Fairfax) 703-278-0076

The Computer Learning Centers Partnership is a public/private collaboration between Fairfax County government and the private sector whose mission is to close the digital divide by providing technology and access to training.

Fairfax County Office For Women
& Commission For Women

NORTHERN VIRGINIA REGIONAL PARTNERSHIP

Dear Parents:

The 2002 Summer Tech Resource Guide for Girls was prepared by the Fairfax County Office For Women with generous support from the Fairfax County Commission For Women and the Northern Virginia Regional Partnership. We hope that this information will help more Northern Virginia girls discover the exciting world of technology.

Too many girls in Northern Virginia and across the nation are leaving school unprepared for the high tech workplace they will soon enter. As parents, you play an important role in helping your children make the best education and career choices. Whether your daughter's future is in the arts or sciences, medicine or law, business or education, her knowledge and use of technology will play a major role in her career.

The Fairfax County Commission For Women and Office For Women have worked for nearly 30 years to remove barriers to full equality for girls in Fairfax County schools. While girls' enrollment has caught up with that of their male peers in most upper level math and science classes, a deep gender gap has developed in technology education.

This technology gender gap challenges our region, and more importantly, the economic security and quality of life of many young women.

We believe the summer technology enrichment programs in this guide offer your daughter a unique opportunity to explore technology apart from the pressures of the school year and to acquire the skills she will need to be a confident user of technology. And maybe even more important, these technology enrichment programs are fun!

Have a great summer.

Alta Newman
Chair
Commission For Women

Leia Francisco
Director
Office For Women

David Hunn
Director
Northern Virginia Regional Partnership

For additional copies of this resource guide or for more information about Commission For Women and Office For Women initiatives around girls and technology, contact:

FAIRFAX COUNTY OFFICE FOR WOMEN

12000 Government Center Parkway, Suite 318 • Fairfax, Virginia 22035

703-324-5730 (Voice) • 703-222-3504 (TTY) • 703-324-3959 (Fax)

www.fairfaxcounty.gov/OFW or email Lesley.Persily@fairfaxcounty.gov